

P-25 seminar, August 13, 2012

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Title: ACTIVE NEUTRINOS AND TESTS OF SYMMETRIES; STERILE NEUTRINOS AND PULSAR KICKS

Abstract: First the concepts related to neutrino oscillations will be reviewed, including the important parameters. Then the studies of Time Reversal Violation (TRV) with a proposed test of TRV; and CP Violation (CPV) that we have carried out during the past year will be discussed. In particular our studies of CPV via the Proposed LBNE Project and possible determination of the CP angle; and the extraction of the angle  $\theta_{13}$  via anti-electron neutrino reactor disappearance experiments at Daya Bay, RENO and Double Chooz will be discussed. The final topic is our new results on pulsar kicks from sterile neutrino emission, making use of recent experiments that have determined the mixing angles.